Science & Engineering Summer School 2023
@Transilvania University

by IBM

Git & GitHub
Source Version Control Tools

Trainer:
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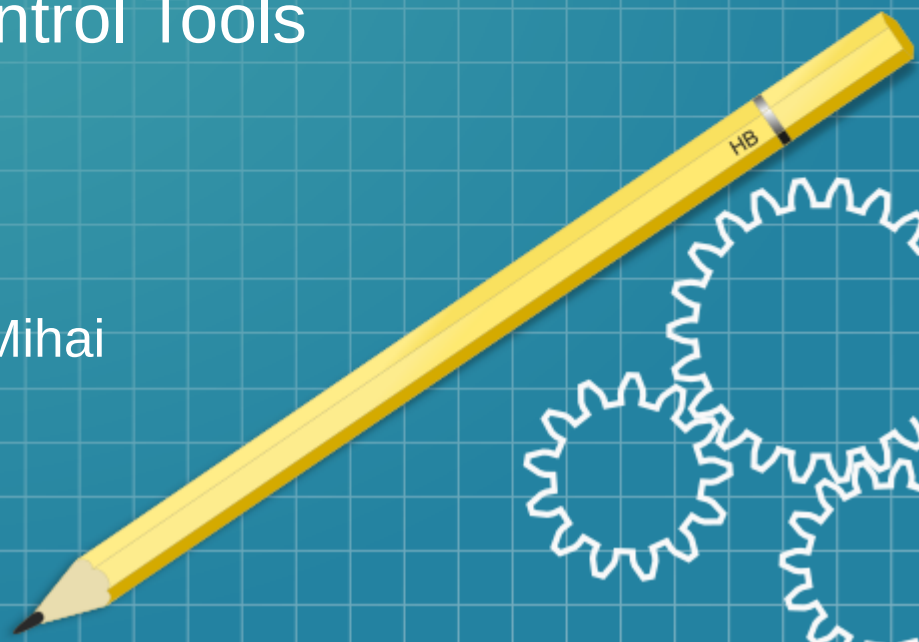
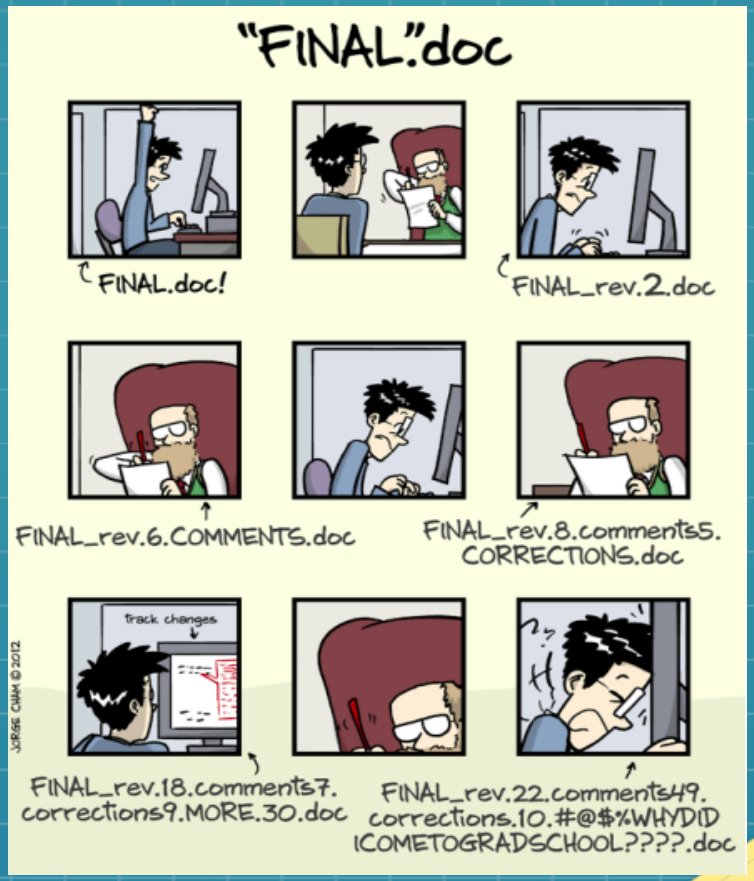
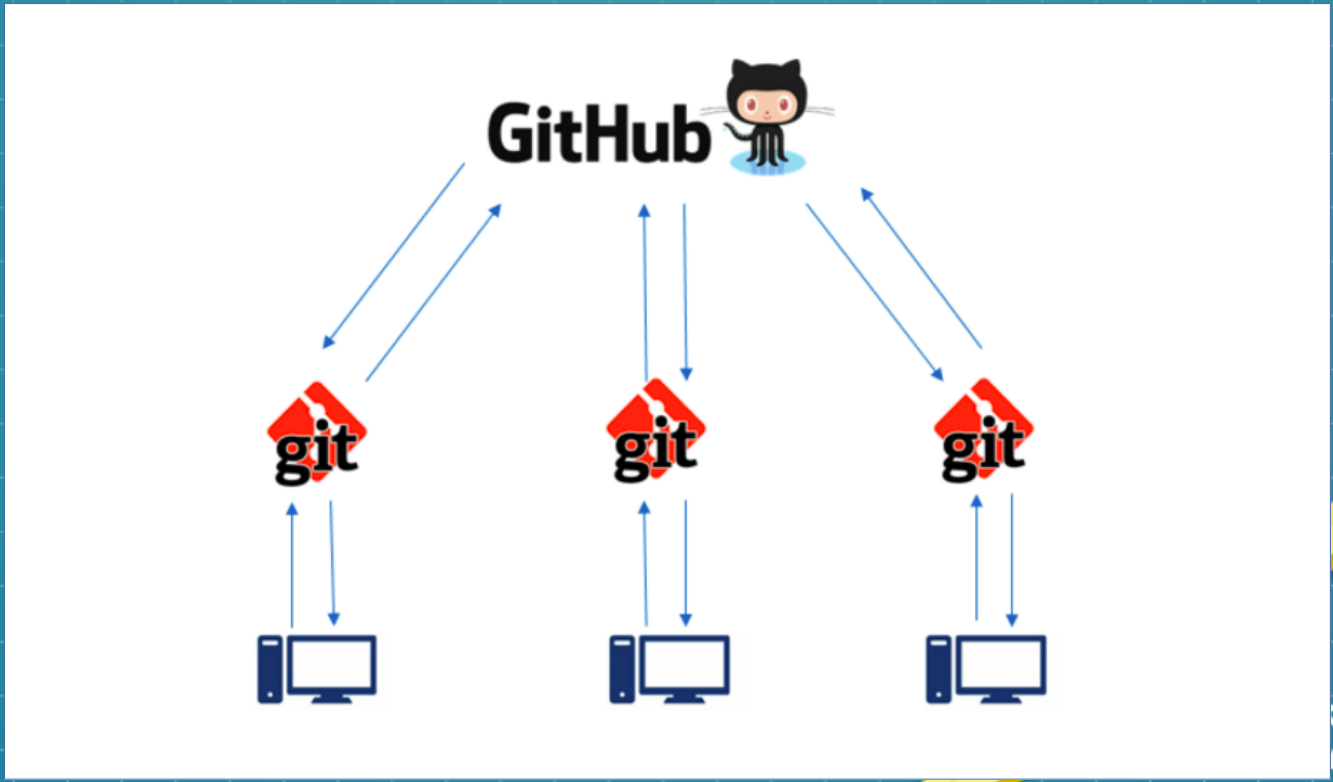


What is happening to you ?



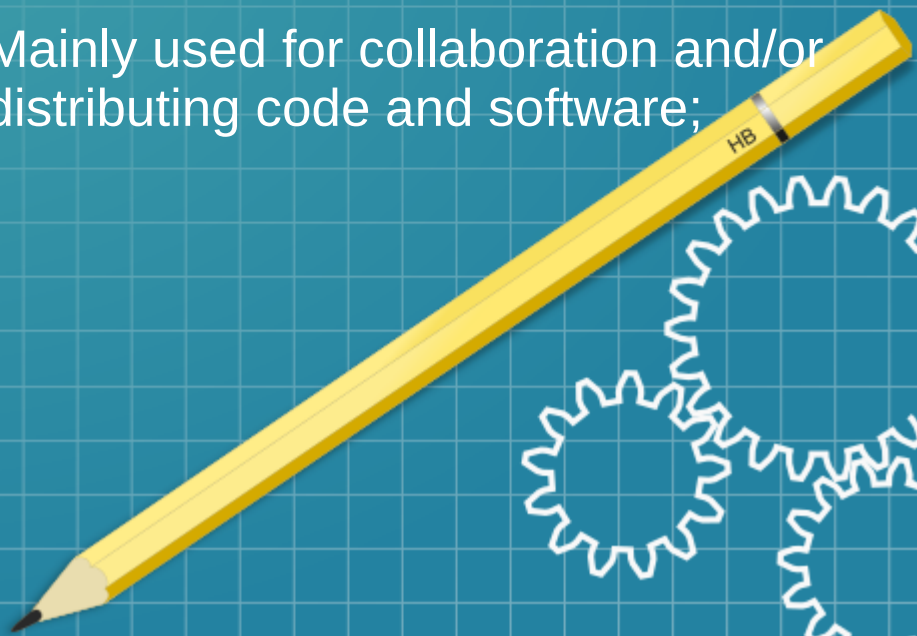
Git and GitHub allow for easy management and sharing of data analytic content



Difference between Git and GitHub !!!

- Version control system used on your computer;
- Git manages the evolution of a set of files—called a repository or repo in a sane, highly structured way;

- Hosting service for git projects - essentially DropBox for git projects;
- Mainly used for collaboration and/or distributing code and software;



How do Git and GitHub work together ?

- Upload data to Git Local Repository

git init .

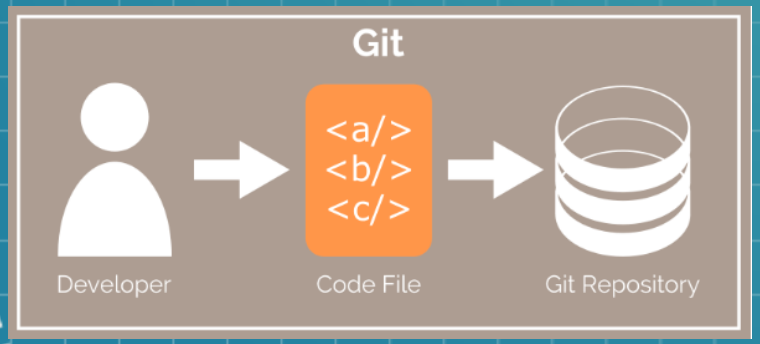
git config –global user.name = “”

git config –global user.email = “”

git checkout -b dev

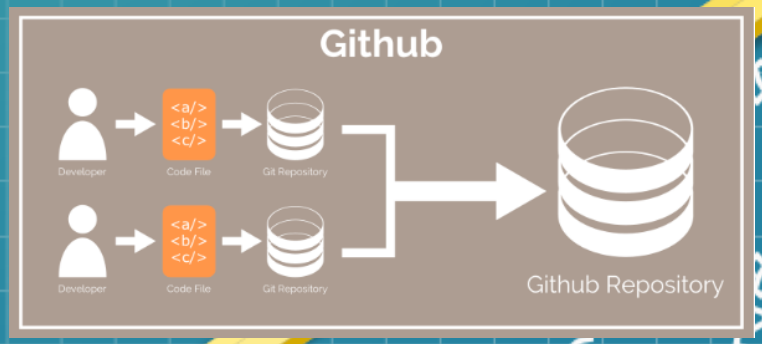
git add --all or file

git commit -m “Initial commit”



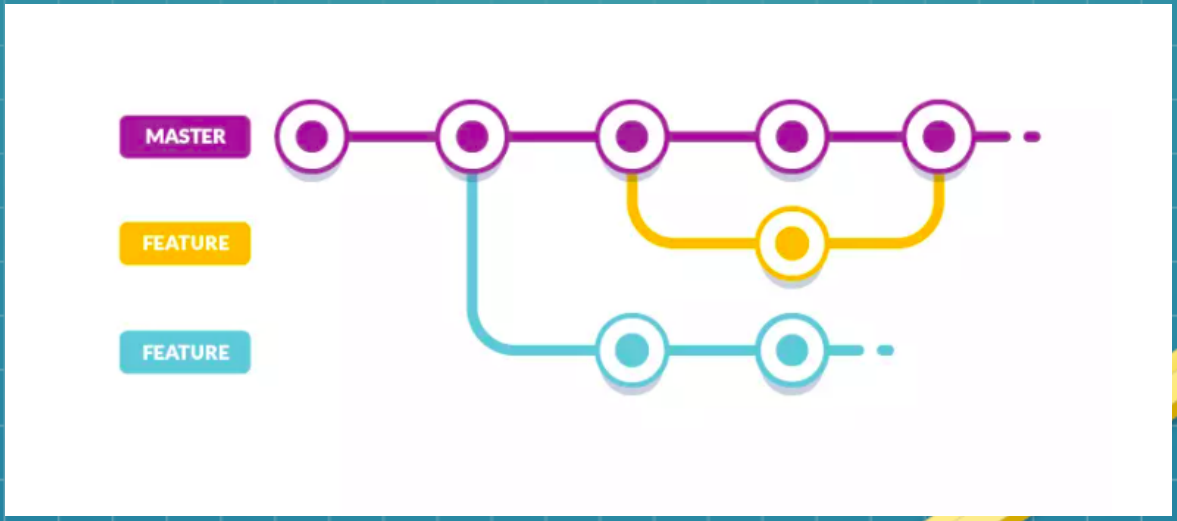
- Upload data to GitHub Repository

git push -u origin branch



You can use branches when working as a team or on a new feature

- **What's a branch?** A branch of code is like a draft of a written document. Say you've written a document and it has all of your changes and additions up to a **certain point of completion**, that is like a branch.



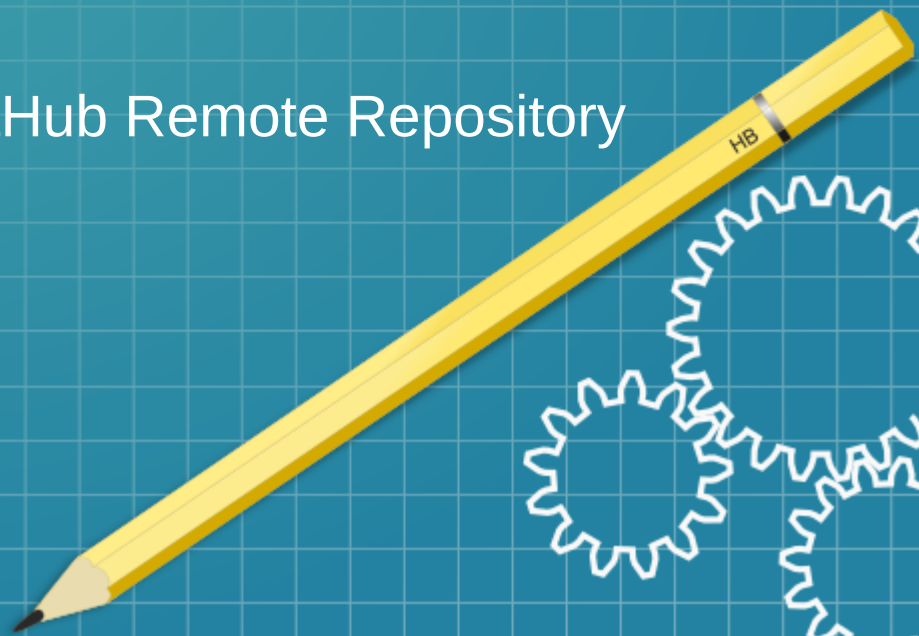
GitHub allows for easy collaboration on projects

- What's Git **Push** ...?

  Upload data to GitHub Repository from Git Local Repository

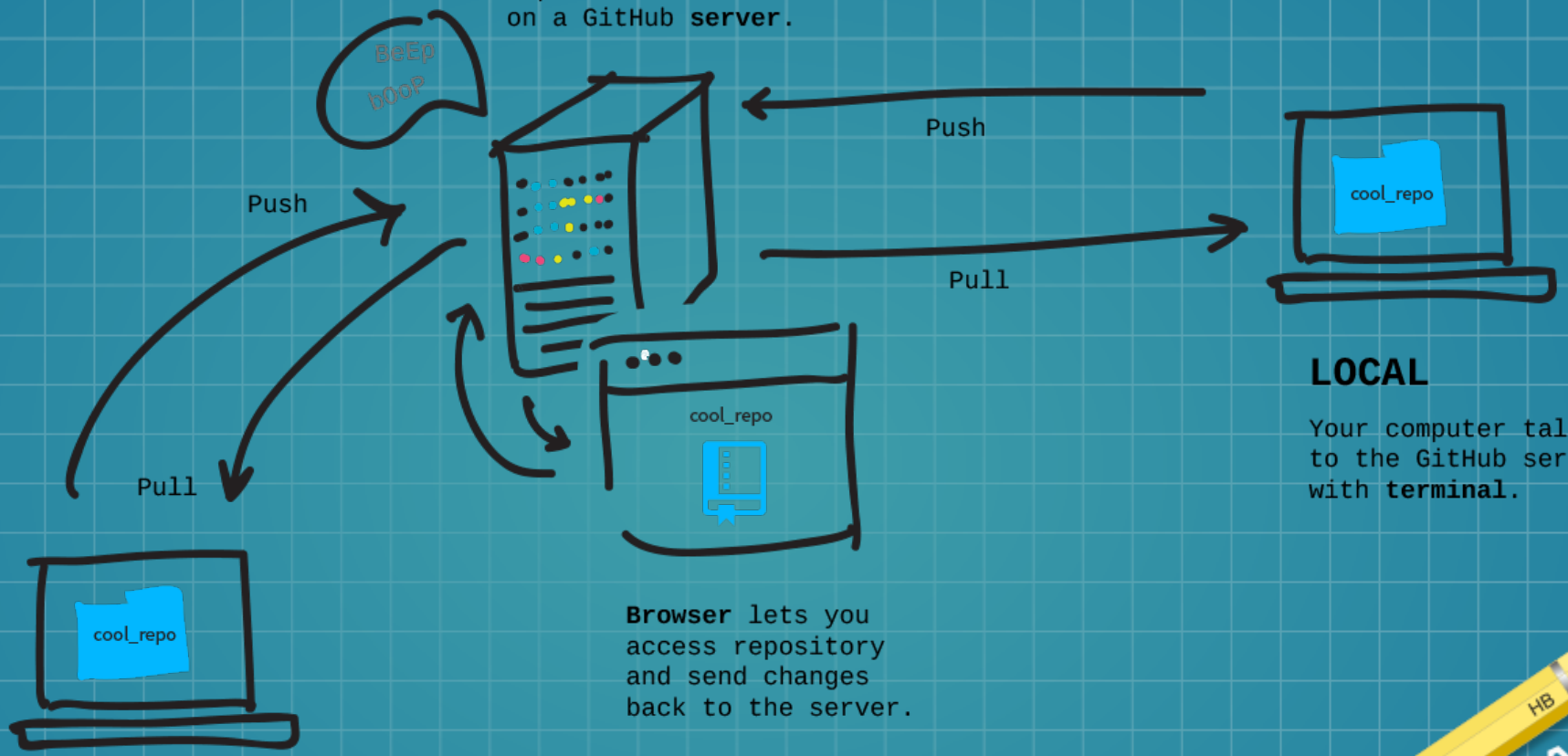
- What's Git **Pull** …?

  Trigger last versions of data from GitHub Remote Repository



REMOTE

Repositories live
on a GitHub **server**.



Browser lets you
access repository
and send changes
back to the server.

LOCAL

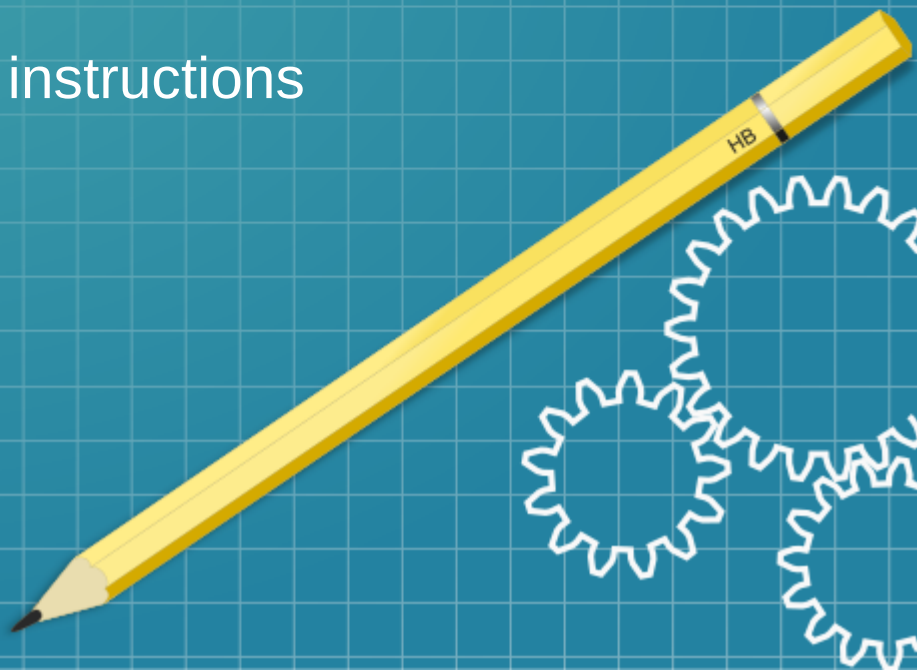
Your computer talks
to the GitHub server
with **terminal**.

LOCAL

Someone else's computer
talks to the GitHub server.

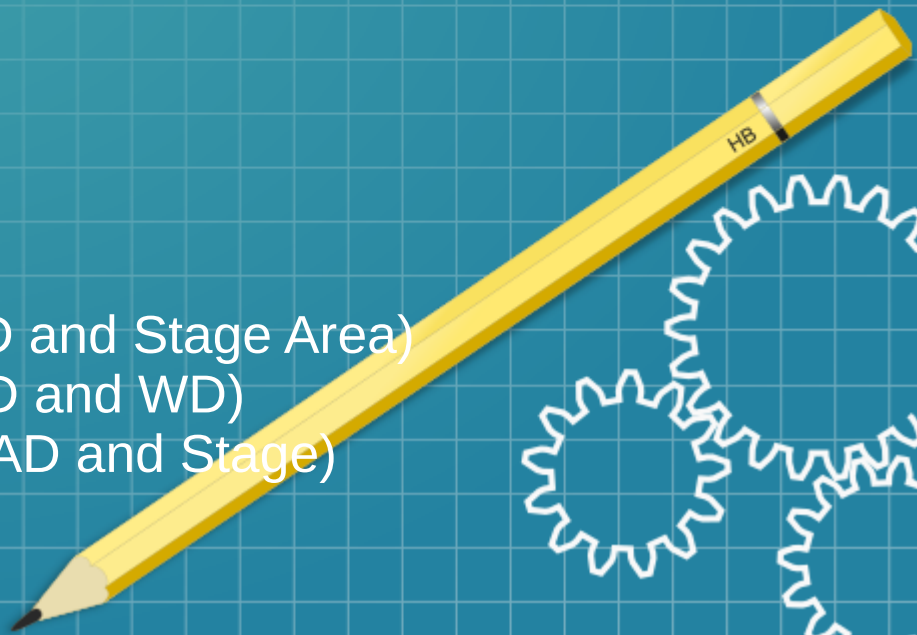
Git Installation on Windows

- Search & Navigate on the following URL **https://git-scm.com/download/win**
- Select your architecture and follow the instructions



Git Stages

- Git remote add origin https://url
- Git remote -v
- Git checkout -b new_branch_name
- Git status
- Git log
- Git init .
- Git clone url
- Git clone -b branch_name repo_url
- Git add –all or file
- Git commit -m “Additional commit message”
- Git push -u origin branch_name
- Git pull
- Git diff (compare code changes between WD and Stage Area)
- Git diff HEAD (compare code between HEAD and WD)
- Git diff –staged (compare code between HEAD and Stage)



Compare Code on different Stages